

## ***Remarks***

Based on the above amendments and the following remarks, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections.

### ***Status of the Claims***

Claims 2, 6-9, 14, 17, 20, 37-40, 69, and 71-75 are currently pending in the application with claim 1 being the independent claim. Claims 1, 3-5, 10-13, 15-16, 18-19, 21-36, 41-68, 70, and 76-82 have been cancelled. Independent claims 2 is currently amended. Support for the claim amendment can be found in the original claims and throughout the Specification. Thus, no new matter is introduced by this amendment and its entry is respectfully requested.

### ***Examiner Interview***

Applicants wish to thank Examiner Hutson and his supervisor, Examiner Nashaat for the telephonic interviews that were held on April 24 and May 13, 2008. During both interviews, the rejections of record were discussed. On May 13, 2008 Examiner Hutson offered to present Applicants case to TC QAS for additional review. On May 14, 2008, Examiner Hutson informed Applicants by voicemail that the new matter rejection was withdrawn in light of his discussion with TC QAS.

Also, during the interview on May 13, 2008, the Examiners asserted that the “comprising” language of claim 1 was excessively broad and suggested that a limitation be included to read on a particular sequence. Applicants agreed to take this suggestion into consideration.

***Rejection of Claims Under 35 U.S.C. § 112, First Paragraph***

***I. New Matter***

Claims 2, 6-9, 14, 17, 20, 37-40, 69 and 71-75 were rejected as being non-compliant with the Written Description Requirement of 35 U.S.C. § 112, first paragraph for allegedly containing new matter. Following the Interview held on May 13, 2008, Applicants were notified by the Examiner that this rejection is now withdrawn, and therefore response with regard to this rejection is moot.

***II. Written Description and Enablement***

Claims 2, 6-9, 14, 17, 20, 37-40, 69 and 71-75 were rejected as being non-compliant with the Written Description and Enablement Requirements of 35 U.S.C. § 112, first paragraph. Applicants respectfully traverse.

The present claims relate to Pol I type *Thermatoga neapolitana* DNA polymerases having reduced or no misincorporation of nucleotides during nucleic acid synthesis with a modification in the O-helix region defined by SEQ ID NO. 1. The claimed modification comprises an amino acid substitution at position Arg722 (*i.e.*, with Ala, Asn, Asp, Cys, Gln, Glu, Gly, His, Ile, Leu, Lys, Met, Phe, Pro, Ser, Thr, Trp, Tyr, or Val) and an amino acid substitution at position Lys726 (*i.e.*, with Ala, Arg, Asn, Asp, Cys, Gln, Glu, Gly, His, Ile, Leu, Met, Phe, Pro, Ser, Thr, Trp, Tyr, or Val) or an amino acid substitution at position Arg722 (*i.e.*, with Ala, Asn, Asp, Cys, Gln, Glu, Gly, His, Ile, Leu, Lys, Met, Phe, Pro, Ser, Thr, Trp, Tyr, or

Val) and an amino acid substitution at position Phe730 (*i.e.*, with Ala, Arg, Asn, Asp, Cys, Gln, Glu, Gly, His, Ile, Leu, Lys, Met, Pro, Ser, Thr, Trp, Tyr, or Val).

According to the Examiner Interview Summary dated May 15, 2008, the outstanding written description and enablement rejections under 112, first paragraph, are based “upon the use of the terminology ‘comprising a modification’” for allegedly opening up the claimed genus of mutants “such that the genus was excessively broad, such that it was not enabled or described.” *See* Examiner Interview Summary issued May 15, 2008.

Applicants respectfully disagree with this characterization. However, in an effort to expedite allowance and without acquiescing to the Examiner’s assertions, Applicants have amended the language of claim 2. The use of the terminology “comprising a modification” has been amended. Present claim 2 has also been amended to include features which read on the O-helix defined by SEQ ID NO. 1. Support for the amendment may be found, for example, on page 19, lines 4-16 and page 5, lines 20-28 of the Specification and/or in the general knowledge of those skilled in the art. Thus, the written description and enablement rejections with regard to the present claims are moot.

Applicants, therefore, respectfully submit that amended claims 2, 6-9, 14, 17, 20, 37-40, 69 and 71-75 are fully compliant with the written description and enablement requirements of 35 U.S.C. § 112, first paragraph. Accordingly, Applicants request that rejection of claims 2, 6-9, 14, 17, 20, 37-40, 69 and 71-75 under 35 U.S.C. § 112 be withdrawn.

***Conclusion***

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested. If additional discussion is desired, Applicants invite the Examiner to call the undersigned at the number indicated below.

Respectfully submitted,  
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Date: May 28, 2008

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